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May 26, 2005

Marlene H. Dortch, Secretary
Federal Communications Commission
Office of the Secretary
236 Massachusetts Avenue, NE., Suite 110
Washington, DC 2002

Dear Ms. Dortch:

Re: WT Docket 04-435, *Amendment of the Commission's Rules to Facilitate the Use of Cellular Telephones and other Wireless Devices Aboard Airborne Aircraft.*

The RTCA, Inc., acting in its capacity as a Federal Advisory Committee, is actively assisting the Federal Aviation Administration (FAA) through RTCA Special Committee 202 (SC-202) to develop guidance with regard to the use of portable electronic devices (PEDs) and transmitting PEDs (T-PEDs) on board carrier aircraft. Current phase 1 work has been completed[1] and phase 2 activities will extend through the end of 2006. SC-202 appreciates the FCC's participation in our activities. We further encourage continued coordination between the FCC and FAA, as well as other relevant agencies, to address the many complex and inter-related issues associated with the in-flight use of mobile phones.

SC-202 is aware of the current NPRM, as well as efforts to develop voice communication systems that could allow the operation of passenger's mobile phones and other portable electronic devices on airborne aircraft without interference with the ground infrastructure. While SC-202 takes no particular position either supporting or opposing the proposed implementation of such systems, current phase 2 work is designed to explore in more detail whether it is possible to allow use of such devices aboard airborne aircraft in a way that ensures a) compatible (non-interfering) operation with airplane navigation, communication, and other electrical and electronic equipment, and b) minimal impact on airline policy and operations (human factors). We further acknowledge that issues may exist in certain designs with regard to interaction with terrestrial communication networks and should be explored.

Considering only spectrum and terrestrial network issues will not address aircraft safety and operations. Conversely, system design primarily based upon controlling unwanted emissions from devices operating in the aircraft cabin will not address interference with ground-based communications networks. As communication and aircraft avionic technologies continue to evolve, and in the case that prospective filings to approve and/or license such on board systems are made, continued coordination between relevant government agencies will be essential.

With respect to NPRM paragraph III.A.20 and 21, the SC-202 suggests that Part 24 (1900 MHz band PCS) and Part 90 (iDEN / SMR) technologies be considered collectively with Part 22 (800 MHz "cellular") in all subsequent Rules pertaining to the use of mobile phones on aircraft, as

[1] DO-294, "Guidance on Allowing Transmitting Portable Electronic Devices (T-PEDs) on Aircraft" issued 10-19-04, prepared by SC-202

these all operate using similar network architecture, similar user equipment, and are considered by the general public under the same generic terminology "mobile phones". The SC-202 also recommends that regulations not single out mobile phones but cover, as applicable, all existing and future personal electronic devices (PEDs), e.g., devices designed and manufactured to comply with Part 15 requirements. The SC-202 has observed that out-of-band and spurious emissions from mobile phones that occur in aviation frequency bands appear to be no worse than many other Part 15 devices (e.g. laptops, PDAs). This is supported by preliminary evidence from a recent NASA study[2] as well as other preliminary analysis and tests submitted to SC-202.

Documents submitted to SC-202 indicate that mobile phones generally meet relevant limits for out-of-band emissions from the transmitter with some margin, and most mobile phones and PEDs meet current Part 15 standards for spurious emissions with some margin. The limits themselves, however, may in some cases exceed current DO-160 emissions levels for installed aircraft avionic equipment.[3] Furthermore, it has been experimentally demonstrated that signals with levels equal to Part 15 limits, when transmitted inside an airplane passenger cabin, can interfere with aeronautical radio communication and navigation systems.[4] The SC-202 phase 2 efforts will review applicable out-of-band and spurious emission limits in the context of existing avionic immunity levels and available test data and consider appropriate recommendations aimed at mitigating potential hazards for mobile phone and PED use onboard aircraft.

The SC-202 is also exploring human factors issues that potentially impact the feasibility of mobile phone system deployments on aircraft. These issues include crewmember ability to distinguish between supported vs. non-supported technologies, ensuring passenger compliance to airline policy and implementation of policies that prevent PED use during takeoff / ascent and descent / landing phases.

In closing, SC-202 phase 2 activities lead to a final report scheduled for the end of 2006. The FAA will need time to consider these recommendations and, if deemed appropriate, promulgate new regulations. RTCA appreciates the continued participation by the FCC in SC-202 work. Close coordination between the FCC and FAA before ruling changes are promulgated, as well as before any on board communication system is approved / certified, will help with efficient and effective implementation. Any premature or unilateral decision on this topic may not fully address all pertinent issues and could create considerable confusion.

Sincerely,

David P. Carson
Co-Chair - SC-202

James W. Fowler
Co-Chair - SC-202

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[2] NASA Langley study commissioned by the FAA to evaluate possible interference from 3G phones with aircraft Navigation and Communications Systems that concluded "In most cases, the wireless phones [that were tested] were seen to have better safety margins [with respect to DO-160 immunity limits] than laptops and PDAs due to their lower emissions" (http://techreports.larc.nasa.gov/ltrs/PDF/2005/tp/NASA-2005-tp213537.pdf)

[3] NASA Langley presentation at May 2003 meeting of the RTCA SC202 concluded that "FCC rules for Part 15 devices may exceed current DO-160 limits." RTCA Paper Number No. 088-03/SC202-005

[4] NASA Langley presentation at October 2004 meeting of the RTCA SC202 concluded "FCC rules for UWB and other Part 15 devices below 960 MHz do not protect aeronautical radio services" RTCA Paper Number No. 176- 04/ SC202- 040